Remarks

The above Amendments and these Remarks are in reply to the outstanding Office Action. Claims 1-6, 8-9 and 11-17 are amended. Claims 7, 10 and 18-21 are cancelled. Claims 22-28 are added.

A number of the claims have been amended to clarify the claimed method and processing system. In regard to claim 1, it has been clarified that the method uses content data and design data. This is supported by Figure 1 and paragraph 72 in regard to the automated layout process which receives as input the content data and design data.

Claim 1 has also been amended to specify that elements are associated with priorities representing a preferred ordering of the elements. Support for this feature can be found in paragraphs 115, 139 which describes priorities and the preferred ordering of the elements. The method of claim 1 has also been clarified to specify that the method is performed in a processing system. Support for this feature can be found in paragraph 147.

Step (a) of claim 1 has also been clarified to specify that the elements are arranged geometrically in accordance with the priorities so as to obtain a resulting layout. Support for this feature has previously been indicated above. Step (d) has also been clarified to specify that repeating the steps (a) to (c) allows the determination of a number of different resulting layouts, thereby allowing one of the resulting layouts to be selected in accordance with the score. Support for step (d) can be found at paragraph 127.

Claim 4 has also been amended to be consistent with claim 1, such that claim 4 specifies including a step (e) of selecting one of the resulting layouts in accordance the score.

Similar amendments have been made to the processing system claims 11, 13 and 14.

The Applicant has also included new claims 22 to 28 to further clarify the method and processing system.

Claim 22 has been included to specify that the step of arranging geometrically the alphanumeric and/or graphical elements comprises at least one of positioning the alphanumeric or graphical elements within the defined space and resizing the alphanumeric and/or graphical elements. Support for this claim can be found in the now cancelled claim 7.

Claim 23 has been included to specify arranging the one or more elements in the defined space in accordance with a first set of rules, the first set of rules relating to a desired arrangement of the one or more elements in the defined space and also defining a predetermined number of resulting layouts for a given number of elements. Support for this feature can be found in paragraph 137 which details the first set of rules which define a predetermined number of resulting layouts (i.e. 6 page elements and 4 rules result in 4096

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layouts). Step (b) of claim 23 is similar to that of claim 1.

Claim 24 has been included to specify the step of selecting one of the resulting layouts in accordance with the score. Support for this feature can be found in claim 4.

Claim 25 has been included to specify arranging geometrically the elements which comprises at least one of positioning the elements within the defined space and resizing the elements. Support for this feature can be found in relation to the support provided for claim 22.

Claims 26 to 28 have been included to specify the processing system is configured to performing the method of claims 23 to 25.

Objection Specification

The Specification and Abstract were objected to because of informalities. The informalities have been corrected and it is therefore respectfully requested that the Examiner remove the objection to the disclosure.

Objection to Claim 18 Under 37 C.F.R. §1.75(c)

Claim 18 is objected to under 37 C.F.R. §1.75(c) as being in improper form because a multiple dependent claim 17.

Claim 18 is cancelled. It is therefore respectfully requested that the objection to claim 18 is now moot.

Objection to Claims 20 and 21 Under 37 C.F.R. §1.75(c)

Claims 20 and 21 are objected to under 37 C.F.R. §1.75(c) as being in improper form for failing to further limit the subject matter of a previous claim.

Claims 20 and 21 are cancelled. It is therefore respectfully requested that the objection to claims 20 and 21 is now moot.

Rejection of Claims 1, 2 and 11-21 Under 35 U.S.C. §101

Claims 1, 2 and 11-21 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

As noted above, the Applicant has amended the claims toward the method as being performed in a processing system. The Applicant submits that a method performed in a processing system is considered statutory subject matter, and therefore the claim rejections to the method claims should be withdrawn.

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In regard to the apparatus claims, the applicant has also amended these claims refer to a processing system. The Applicant submits that a processing system for performing the specified method is statutory subject matter and therefore the Applicant requests that the claim rejection be withdrawn.

Rejection of Claim 5 Under 35 U.S.C. §112

Claim 5 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular the Examiner has raised a question as to whether the finished work is referring to the book, or to the layout.

The Applicant has amended claim 5 to clarify that steps (a) through to (c) are performed for a plurality of different spaces and different elements, thereby obtaining a plurality of selected resulting layouts which together define a finished work. Therefore, in regard to the embodiment which the Examiner has referred to as the book, the book would be considered a finished work and the different spaces would be considered different pages of the book. We believe the claim 5, as currently amended, is clear, and we therefore request the claim rejection to be withdrawn.

Rejection of Claims 1-21 Under 35 U.S.C. §103(a)

Claims 1-21 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,517,621 ("*Fukui et al.*") in view of U.S. Publication No. 2002/0040375A ("*Simon et al.*").

The Applicant requests reconsideration and withdrawal of the claim rejection in light of the above-mentioned amendments and in light of the following comments.

Simon et al. describes an optimization method to find an optimal page layout in accordance with minimizing the white space between images. The method is performed using a simulated annealing approach by randomly positioning images. The method iteratively determines page layouts by minimizing the white space between the positioned images. Generated layouts from the simulated annealing approach are scored to determine an optimal layout.

Fukui et al. describes a method of laying out document data (including text data and figure data) in a frame using region data. The document describes that a candidate generation unit 7 generates candidate positions for laying out the figure data among the text data by an analysis performed by the layout position candidate generation unit 9 on the current status of the layout of the document data obtained by the layout status monitoring unit 8. The layouts are scored using a layout result estimation unit 10, and the layouts are

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displayed for selection.

Applicant initially respectfully submits that there is no teaching or suggestion in the references or prior art in general that would lead one of skill in the art to combine the teachings of *Fukui et al* with *Simon et al.* Before references may be combined to render a claimed invention obvious, there must be some suggestion or motivation found in the art to make the combination. *In re Dance*, 160 F.3d 1339, 1343 (Fed. Cir. 1998). "It is insufficient to establish obviousness that the separate elements of the invention existed in the prior art, absent some teaching or suggestion, in the prior art, to combine the elements." *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 957 (Fed. Cir. 1997). Moreover, the fact that references can be combined is insufficient to meet this criterion. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). Similarly, the fact that the combination would be well within the ordinary skill in the art, by itself, is insufficient to meet this criterion. *Al-Site Corp. v. VSI Intern., Inc.*, 174 F.3d 1308, 1324 (Fed. Cir. 1999). The examiner needs to show the additional step of how this knowledge of the skilled artisan.

The Examiner has stated that there was a motivation to combine *Fukui et al* and *Simon et al.* "for the benefit of selecting an optimal page layout to minimize cost." Applicant respectfully submits that one of skill in the art would not have been motivated to combine *Fukui et al* with *Simon et al.* for this purpose. Therefore, it is respectfully submitted that there is no teaching or suggestion found in the references or in the art in general to combine the references.

However, even if the references were to be combined, the combined teaching still does not teach or suggest the invention recited in claims 1-21. In regard to independent claims 1 and 11, both *Simon et al.* and *Fukui et al.* fail to teach or suggest *"arranging geometrically and according to the priorities the alphanumeric and/or graphical elements to obtain a resulting layout"*.

In particular, *Simon et al.* fails to teach or suggest any form of priorities associated with the elements representing a preferred ordering of the elements. As previously indicated, *Simon et al.* actually teaches that a random positioning of the elements should be used, and thus the random positioning fails to take into account any form of preferred ordering of the elements in the page.

Similarly, *Fukui et al.* fails to teach priorities associated with the element representing a preferred ordering of the element. *Fukui et al.* can be at best be broadly interpreted to utilize a fixed and absolute

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ordering of the elements in a frame as discussed for example at column 5, lines 14 to 30. However, the fixed and absolute ordering approach taught by *Fukui et al.* fails to teach or suggest that priorities are associated with the elements, and that the priorities represent a preferred ordering of the elements which are used to generate the layouts. This distinction between priorities representing a preferred ordering and an absolute ordering is discussed in paragraph 115 of the Applicant's specification which discusses the priorities of *"Ignore"*, *"Can"*, *"Should"*, and *"Must"*. This form of ordering through the use of priorities is clearly not taught or suggested by *Fukui et al.*

Based on the above discussed teachings of *Simon et al.* and *Fukui et al.*, it is clear that *Fukui et al.* in view of *Simon et al.* fails to teach or suggest the claim limitations of *"the elements being associated with priorities representing a preferred ordering of the elements"* and *"arranging geometrically and according to the priorities the alphanumeric and/or graphical elements to obtain a resulting layout"*.

The Applicant further submits that the claimed method and processing system of claims 1 and 11 provide unique advantages which are not provided by *Simon et al.* or *Fukui et al.*

In particular, it is discussed in paragraph 139 that in the situation of arranging a heading and a subheading, it is preferable that a resulting layout, does not include a layout that has the subheading positioned above the heading. By arranging geometrically the elements in accordance with the priorities, the generation of illogical layouts is avoided, minimizing the amount of processing performed by the processing system.

Furthermore, by associating priorities such as *"Ignore"*, *"Can"*, *"Should"*, and *"Must"* with the elements, a level of flexibility is provided to the user so that any generated layouts are not restricted to an absolute ordering which is in total contrast to *Fukui et al.* which provides absolutely no flexibility regarding the ordering of text and figure data.

The Applicant therefore respectfully submits that as all claim limitations of independent claims 1 and 11 are not taught or suggested by *Fukui et al.* in view of *Simon et al.*, and that as the claimed method and processing system provide significant advantages over the cited documents, independent claims 1 and 11 are patentable over *Fukui et al.* in view of *Simon et al.*

In regard to independent claims 23 and 26, both *Simon et al.* and *Fukui et al.* fail to teach or suggest *"the first set of rules also defining a predetermined number of resulting layouts for a given number of elements"*.

In particular, *Simon et al.* teaches that the iterative process of randomly positioning images *"can be defined by the total number of iterations or by a number of iterations without an improvement"*. Thus, the

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process is continued until no improvement results. This could take any number of iterations this is not determined. Additionally, this predetermined layout is not *"in accordance with a given number of elements"* that are to be arranged within the page.

In regard to *Fukui et al.*, there is no restriction of the number of possible layouts the system may generate. This is illustrated at lines 10 to 23 of column 6 and Figure 8 where *Fukui et al.* describes that the number of candidate positions to be considered for sentence frame #T3 is dependent upon the size of the frame. Thus, if the length of the frame is less than half and the width is less than half, four possible candidate positions for the sentence frame must be considered (i.e. Upper left corner, Upper right corner, Lower left corner, and Lower right corner). However, if the length is less than half and the width is half to same, only two possible candidate positions for the sentence frame must be considered (i.e. Top center, and bottom center). Thus, it is apparent that Fukui only teaches that the a variable number of layouts can be generated in accordance with the size of the frames or elements being positioned. This distinction between a variable number of layouts and a predetermined number of layouts is clearly discussed in paragraph 137 of the Applicant's current description.

Based on the above discussed teachings of *Simon et al.* and *Fukui et al.*, it is clear that *Fukui et al.* in view of *Simon et al.* fails to teach or suggest the claim limitation of *"the first set of rules also defining a predetermined number of resulting layouts for a given number of elements"*.

The Applicant further submits that the claimed method and processing system of claims 23 and 28 provide unique advantages which are not provided by *Simon et al.* or *Fukui et al.* In particular, by defining a predetermined number of resulting layouts, the user can be provided an estimated time-frame regarding when the generation of the layout will be complete, which is in total contrast to both *Simon et al.* and *Fukui et al.* where the number of generated layouts is totally unknown until the sizes of the frames or elements are analyzed. This feature of providing an estimation of processing time represents a significant advantage considering the large number of combinations of layouts that can be scored for a defined space.

Furthermore, by defining a predetermined number of layouts, the results are significantly more accurate due to each potential layout being considered. This is in contrast to *Simon et al.* where a defined limit of iterations to be performed excludes scoring other potential layouts, and thus is susceptible to inaccuracy.

Additionally, defining a predetermined number of layouts can be less processor intensive which is in contrast to *Simon et al.* which uses a simulated annealing approach which is generally extremely processing intensive due to the large number of random positions that need to be tested in order to find an optimal layout.

The Applicant therefore respectfully submits that as all claim limitations of independent claims 23 and

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26 are not taught or suggested by *Fukui et al.* in view of *Simon et al.*, and that as the claimed method and processor system provide significant advantages over the cited documents, independent claims 23 and 26 are patentable over *Fukui et al.* in view of *Simon et al.*.

Reconsideration and withdrawal of the claim rejection is respectfully requested.

Based on the above amendments and these remarks, reconsideration of claims 1-6, 8-9 and 11-17, and consideration of claims 22-28, is respectfully requested.
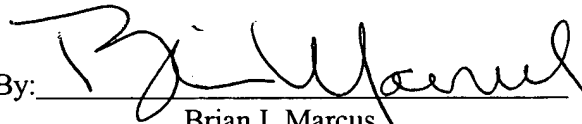
The Examiner's prompt attention to this matter is greatly appreciated. Should further questions remain, the Examiner is invited to contact the undersigned attorney by telephone.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 501826 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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